Saskatchewan Agriculture and Food

Crop Planning Guide 2007

BROWN SOIL ZONE

Each year, Saskatchewan Agriculture and Food (SAF) assembles Crop Planning Guides to help producers estimate their costs of producing various crops. These estimates do not represent provincial average cost-of-production figures, but are meant to be used as a guide. Farm managers should use their own costs because costs and yields on each farm differ due to the type and availability of equipment; the amount of chemicals and fertilizer used; and various other agronomic practices. Blank worksheets are provided for this purpose.

Using the guide

The figures contained in these guides provide an estimate of variable expenses and other expenses (depreciation and investment cost for machinery, buildings and land) for an average-sized farm in each of the soil zones. For 2007, the size of farm used for the brown soil zone was 1,955 acres (2001 Census of Agriculture).

Crop prices are farm gate price estimates for 2007 based on the information that was available in December 2006. Producers are asked to use their own judgment and adjust the estimates to what they think may occur. Also, it is important to continually adjust these estimates as seeding time approaches.

Yields are area averages from Saskatchewan Crop Insurance Corporation (SCIC). It is recommended that producers use their own yield expectations.

When comparing returns per acre of a continuous-stubble crop to a fallow-seeded crop, add the summerfallow costs to the fallow-seeded crop expenses. The best way to compare summerfallow and stubble crops is to calculate the average returns per rotation acre for different rotations of crops. Refer to the example in this guide.

In crop-to-crop comparisons, producers often focus only on the return over all expenses (profit). However, it is very useful to look at break-even prices and break-even yields. The break-even yields show the level of yields producers would need to achieve to cover costs based on the estimated market price. The break-even prices for crops show the prices needed by producers to cover costs if the estimated average yields are obtained. Farm managers are advised to interpret these figures very carefully and evaluate new information as it becomes available.

Short-term planning versus long-term planning

In the short term, producers must generate more revenue than their variable expenses (estimated gross revenue minus variable expenses). Meeting these costs ensures a producer can pay for cash costs each year. However, over the long term, producers must generate more revenue than total expenses. Meeting all costs ensures one can meet all financial and equipment costs over the long term.

Changes to the Guide for 2007

From the revenue perspective, just about all crop revenue forecasts are higher than last year. From the cost side, fertilizer and fuel prices are down slightly while financing costs are up slightly. We have decreased our estimates of equipment repair costs, not because the actual cost has decreased, but rather because data is showing that we were overestimating the cost in previous years. See Item 5 of the assumptions on the back page of this publication. It is recommended that producers use actual figures for repair costs from previous years to achieve the best estimate of annual repair costs.

2007 Agronomic Considerations

Fall 2006 stubble subsoil moisture is variable within the brown soil zone (maps are available from the SAF website). Fertilizer effectiveness is usually greater when moisture conditions are favourable. However, producers should check their own subsoil moisture before projecting yields.

The guides continue to show reduced phosphorous rates to fall in line with recommended maximum safe rates for seed placed phosphate. Producers may choose to use higher rates on an individual basis, but caution is advised. Soil tests are recommended and will suggest the fertility requirements for 2007.

SAF also produces maps that forecast potential insect infestation levels. These maps aid in adjusting expected crop yields due to insect infestations.

Caution should be exercised when using herbicides, fungicides and insecticides. It is recommended that you alter the type and group of chemical used, in order to minimize the chance for resistance to develop.

Agriculture Knowledge Centre phone, toll free, 1-866-457-2377

The Agriculture Knowledge Centre (AKC) is the place to look for the latest information on topics including crops and livestock, nutrient management, and the economic implications of management decisions.

Use the toll-free line to contact resource agents and specialists, who draw on expertise from around the province.

CROP PRODUCTION COSTS ($/ACRE) BROWN SOIL ZONE 2007

	Summerfallow		Fallow Seeded Crops										
	Tillage Fallow	Chem Fallow	Spring Wheat	Durum Wheat	CPS Wheat	Feed Barley	Oats	Flax	Large Grn Lentil	Canary Seed	Brown Mustard	Spring Wheat	Durum Wheat
REVENUE PER ACRE													
Estimated Yield (bu/ac lb/ac) (A)			33.0	36.4	41.4	52.6	58.6	18.5	1227.6	1009.2	18.5	26.0	28.3
Est. On Farm Market Price/bus lb (B)			4.50	4.70	4.00	2.60	2.25	6.25	0.17	0.17	8.50	4.50	4.70
Estimated Gross Revenue/ac (AxB)=(C)	**0.00**	**0.00**	**148.50**	**171.08**	**165.60**	**136.76**	**131.85**	**115.63**	**208.69**	**171.56**	**157.25**	**117.00**	**133.01**
EXPENSES PER ACRE													
Variable Expenses/acre													
Seed			10.05	10.56	8.96	7.22	10.65	5.10	18.90	8.05	17.70	10.05	10.56
Fertilizer - Nitrogen			8.20	8.20	8.20	8.20	8.20	8.20	2.46	8.20	8.20	18.45	18.45
- Phosphorus			8.10	8.10	8.10	8.10	8.10	4.05	5.40	8.10	5.40	8.10	8.10
- Sulphur & Other			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00
Chemical - Herbicides	3.74	11.63	12.05	12.05	12.05	12.06	7.95	22.43	35.25	11.33	17.09	12.05	12.05
- Insecticides/Fungicides	0.00	0.00	1.11	1.11	1.11	0.00	0.00	0.00	1.11	1.92	0.42	1.11	1.11
- Others	0.00	0.00	2.70	2.70	2.70	2.16	2.55	1.50	1.80	0.00	0.00	2.70	2.70
Machinery Operating - Fuel	6.50	1.30	11.05	11.05	11.05	11.05	11.05	12.35	12.35	11.05	11.70	13.00	13.00
- Repair	1.47	1.05	4.32	4.32	4.32	4.32	4.32	5.76	7.16	4.32	4.32	4.32	4.32
Custom Work & Hired Labour	0.00	0.00	6.50	6.50	6.50	5.50	5.50	5.50	5.75	5.50	5.00	6.50	6.50
Crop Insurance Premium	0.00	0.00	4.16	5.23	6.59	6.52	6.20	11.33	12.56	6.11	8.76	3.27	4.06
Utilities & Miscellaneous	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52
Interest on Variable Expenses	1.30	1.50	2.05	2.09	2.08	1.96	1.94	2.27	3.03	1.94	2.40	2.37	2.40
Total Variable Expenses (D)	**16.54**	**19.00**	**73.80**	**75.43**	**75.17**	**70.60**	**69.98**	**82.01**	**109.29**	**70.04**	**86.51**	**85.43**	**86.77**
Other Expenses/acre													
Building Repair	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Property Taxes	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89
Insurance & Licences	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31
Machinery Depreciation	4.90	3.50	14.40	14.40	14.40	14.40	14.40	14.40	17.90	14.40	14.40	14.40	14.40
Building Depreciation	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Machinery Investment	2.79	2.00	8.21	8.21	8.21	8.21	8.21	8.21	10.20	8.21	8.21	8.21	8.21
Building Investment	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Land Investment	13.95	13.95	13.95	13.95	13.95	13.95	13.95	13.95	13.95	13.95	13.95	13.95	13.95
Total Other Expenses (E)	**30.67**	**28.47**	**45.58**	**45.58**	**45.58**	**45.58**	**45.58**	**45.58**	**51.08**	**45.58**	**45.58**	**45.58**	**45.58**
Labour and Management (F)*													
Total Expenses (D+E+F)=(G)	**47.21**	**47.47**	**119.38**	**121.01**	**120.76**	**116.19**	**115.56**	**127.59**	**160.37**	**115.62**	**132.09**	**131.02**	**132.35**
Summerfallow Expense (H)			47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21	47.21		
Total Rotational Expense (G+H)=(I)			166.59	168.21	167.96	163.39	162.77	174.80	207.57	162.83	179.30	131.02	132.35
RETURNS PER ACRE													
Return over Variable Expenses (C-D)			**58.16**	**79.12**	**73.89**	**49.62**	**45.33**	**17.08**	**82.87**	**84.99**	**54.20**	**31.57**	**46.24**
Return over Total Rotational Expenses (C-I)			**-18.09**	**2.87**	**-2.36**	**-26.63**	**-30.92**	**-59.17**	**1.12**	**8.73**	**-22.05**	**-14.02**	**0.66**
BREAK-EVEN YIELD PER ACRE **													
To Cover Variable Expenses			**20.1**	**19.6**	**22.9**	**33.5**	**38.5**	**15.8**	**740.1**	**509.3**	**12.1**	**19.0**	**18.5**
To Cover Total Rotational Expenses			**37.0**	**35.8**	**42.0**	**62.8**	**72.3**	**28.0**	**1221.0**	**957.8**	**21.1**	**29.1**	**28.2**
BREAK-EVEN PRICE PER BU/LB **													
To Cover Variable Expenses			**2.74**	**2.53**	**2.22**	**1.66**	**1.48**	**5.33**	**0.10**	**0.09**	**5.57**	**3.29**	**3.07**
To Cover Total Rotational Expenses			**5.05**	**4.62**	**4.06**	**3.11**	**2.78**	**9.45**	**0.17**	**0.16**	**9.69**	**5.04**	**4.68**

* These budgets do not include an estimate for owner/operator labour and management. This value varies greatly and depends on both the farm manager's needs as well as the ability of the farm business to generate income. Farm managers need to determine their own actual labour and management cost and add it to total expenses.

** Returns per acre, break-even yields and prices for fallow crops must include the previous year's fallow expenses. For simplicity we used 2007 tillage fallow values.

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USING THE 2007 CROP BUDGETS

The relative profitability of crops can be difficult to determine when they are part of a longer-term rotation. Profits are easier to compare based on the net returns per rotation acre, which is the average profit or loss per acre, per year for a particular crop rotation.

Step 1. Adjust the crop budgets for the crops to be compared.

The crop budgets shown in this report are based on estimated costs and returns for each crop. The actual costs and returns on your own farm may be different. For example, the budget for direct seeded stubble canola assumes the use of a herbicide to control grassy weeds and volunteer grain. You may not have these weeds on the fields you are planning to seed. You may wish to change costs to suit the conditions on your own farm. The assumptions which were used to develop the budgets are listed on the back of this report. A blank worksheet is provided to permit you to adjust the budgets for each crop in the rotations you are comparing.

Step 2. Calculate the average returns per rotation acre.

Use the table below to list the different rotations of crops and fallow which you are considering for your farm. Show the complete rotation from the first year to the last year. Use the adjusted crop budgets for your own farm to calculate the average return per rotation acre for various rotations.

CROP ROTATION RETURNS	Example 1 BLACK SOIL ZONE			Rotation 1		Rotation 2		Rotation 3	
	Crop	Return over Total Expenses $/acre	Return over Variable Expenses $/acre	Crop	Return $/acre	Crop	Return $/acre	Crop	Return $/acre
Year 1	Canola on Fallow	$ (8.16)	$ 96.03						
Year 2	Spring Wheat Direct-Seeded	$ 1.47	$ 62.21						
Year 3	Lentil Direct-Seeded	$ (14.13)	$ 52.09						
Year 4	CPS Direct-Seeded	$ 17.16	$ 77.89						
Year 5	Tillage Fallow								
Year 6									
Total Returns		$ (3.66)	$ 288.22						
Total # of years in rotation		5	5						
Return per rotation acre		$ (0.73)	$ 57.64						

In this example, both returns over total expenses and returns over variable expenses are calculated.

If the average return is negative, then the rotation with the smallest negative return would be best. In this example, the fallow expenses are included with the canola on fallow expenses.

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CROP PRODUCTION COSTS MY FARM	USE THIS WORKSHEET TO ADJUST THE CROP BUDGETS TO YOUR FARM COSTS			
CROPS				
REVENUE PER ACRE				
A Estimated yield (bu./ac., lb./ac.)				
B Estimated on-farm market price per bushel or per pound				
C Estimated Gross Revenue per Acre (AxB)				
EXPENSES PER ACRE				
Variable Expenses per Acre				
Seed				
Fertilizer: Nitrogen				
Phosphorus				
Sulphur and Other				
Chemical: Herbicides				
Insecticides/Fungicides				
Others				
Machinery Operating: Fuel				
Repair				
Custom Work and Hired Labour				
Crop Insurance Premium				
Utilities and Miscellaneous				
Interest on Variable Expenses				
D Total Variable Expenses per Acre				
Other Expenses per acre				
Building Repair				
Property Taxes				
Insurance and Licences				
Machinery Depreciation				
Building Depreciation				
Machinery Investment				
Building Investment				
Land Investment				
E Total Other Expenses				
F Labour and Management*				
G Total Expenses per Acre (D+E+F)				
H Summerfallow Expense				
I Total Rotational Expense (G+H)				
RETURNS PER ACRE				
Return over Variable Expenses (C-D)				
Return over Total Expenses (C-I)				
BREAK-EVEN YIELD PER ACRE (lb./ac. or bu./ac.)**				
To Cover Variable Expenses				
To Cover Total Expenses				
BREAK-EVEN PRICE (per bushel or per pound)**				
To Cover Variable Expenses				
To Cover Total Expenses				

* These budgets do not include an estimate for owner/operator labour and management. This value varies greatly and depends on both the farm manager's needs as well as the ability of the farm business to generate farm income. Farm managers need to determine their own actual labour and management cost and add it to total expenses.

** Returns per acre, break-even yields and prices for fallow seeded crops must include the previous year's fallow expenses.

Conventional Seeded Stubble Crops							Direct Seeded Stubble Crops							
CPS Wheat	Feed Barley	Oats	Flax	Large Grn Lentil	Canary Seed	Brown Mustard	Spring Wheat	Durum Wheat	CPS Wheat	Feed Barley	Oats	Flax	Large Grn Lentil	Canary Seed	Brown Mustard
29.6	39.5	44.7	14.5	1068.6	677.4	15.7	26.0	28.3	29.6	39.5	44.7	14.5	1068.6	677.4	15.7
4.00	2.60	2.25	6.25	0.17	0.17	8.50	4.50	4.70	4.00	2.60	2.25	6.25	0.17	0.17	8.50
118.40	**102.70**	**100.58**	**90.63**	**181.66**	**115.16**	**133.45**	**117.00**	**133.01**	**118.40**	**102.70**	**100.58**	**90.63**	**181.66**	**115.16**	**133.45**
8.9ts	7.22	10.65	5.10	18.90	8.05	17.70	10.05	10.56	8.96	7.22	10.65	5.10	18.90	8.05	17.70
18.45	18.45	18.45	18.45	2.46	14.35	18.45	18.45	18.45	18.45	18.45	18.45	18.45	2.46	14.35	18.45
8.10	8.10	8.10	4.05	5.40	8.10	5.40	8.10	8.10	8.10	8.10	8.10	4.05	5.40	8.10	5.40
0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
12.05	12.06	7.95	22.43	35.25	11.33	17.09	14.45	14.45	14.45	14.46	10.35	24.83	34.67	13.73	16.38
1.11	0.00	0.00	0.00	1.11	1.92	0.42	1.11	1.11	1.11	0.00	0.00	0.00	4.09	1.92	0.42
2.70	2.16	2.55	1.50	1.80	0.00	0.00	2.70	2.70	2.70	2.16	2.55	1.50	1.80	0.00	0.00
13.00	13.00	13.00	14.30	14.30	13.00	13.65	9.10	9.10	9.10	9.10	9.10	10.40	10.40	9.10	9.75
4.32	4.32	4.32	5.76	7.16	4.32	4.32	4.32	4.32	4.32	4.32	4.32	5.76	7.16	4.32	4.32
6.50	5.50	5.50	5.50	5.75	5.50	5.00	6.50	6.50	6.50	5.50	5.50	5.50	5.75	5.50	5.00
4.75	4.91	4.73	8.87	10.91	4.10	6.36	3.27	4.06	4.75	4.91	4.73	8.87	10.91	4.10	6.36
3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52
2.38	2.26	2.25	2.55	3.04	2.11	2.66	2.32	2.36	2.34	2.22	2.20	2.51	2.99	2.07	2.55
85.83	**81.50**	**81.02**	**92.03**	**109.60**	**76.30**	**96.59**	**83.89**	**85.23**	**84.29**	**79.95**	**79.47**	**90.48**	**108.05**	**74.76**	**91.84**
0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89
1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31
14.40	14.40	14.40	14.40	17.90	14.40	14.40	14.40	14.40	14.40	14.40	14.40	14.40	17.90	14.40	14.40
0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
8.21	8.21	8.21	8.21	10.20	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	10.20	8.21	8.21
1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
13.95	13.95	13.95	13.95	13.95	13.95	13.95	13.95	13.95	13.95	13.95	13.95	13.95	13.95	13.95	13.95
45.58	**45.58**	**45.58**	**45.58**	**51.08**	**45.58**	**45.58**	**45.58**	**45.58**	**45.58**	**45.58**	**45.58**	**45.58**	**51.08**	**45.58**	**45.58**
131.41	**127.08**	**126.60**	**137.61**	**160.67**	**121.89**	**142.17**	**129.47**	**130.81**	**129.87**	**125.54**	**125.06**	**136.07**	**159.13**	**120.34**	**137.43**
131.41	127.08	126.60	137.61	160.67	121.89	142.17	129.47	130.81	129.87	125.54	125.06	136.07	159.13	120.34	137.43
32.57	**21.20**	**19.56**	**-1.40**	**72.07**	**38.85**	**36.86**	**33.11**	**47.78**	**34.11**	**22.75**	**21.10**	**0.14**	**73.61**	**40.40**	**41.61**
-13.01	-24.38	-26.02	-46.99	20.99	-6.73	-8.72	-12.47	2.20	-11.47	-22.84	-24.48	-45.44	22.53	-5.19	-3.98
21.5	**31.3**	**36.0**	**14.7**	**644.7**	**448.8**	**11.4**	**18.6**	**18.1**	**21.1**	**30.8**	**35.3**	**14.5**	**635.6**	**439.8**	**10.8**
32.9	48.9	56.3	22.0	945.1	717.0	16.7	28.8	27.8	32.5	48.3	55.6	21.8	936.1	707.9	16.2
2.90	**2.06**	**1.81**	**6.35**	**0.10**	**0.11**	**6.15**	**3.23**	**3.01**	**2.85**	**2.02**	**1.78**	**6.24**	**0.10**	**0.11**	**5.85**
4.44	3.22	2.83	9.49	0.15	0.18	9.06	4.98	4.62	4.39	3.18	2.80	9.38	0.15	0.18	8.75

For more information contact: The Agriculture Knowledge Centre
Toll Free: 1-866-457-2377
or the Provincial Crop Economics Specialist
Crop Development Branch, Saskatchewan Agriculture and Food
Telephone (306) 787-6613
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BROWN SOIL ZONE ASSUMPTIONS

1. **Seed including cleaning:**
   - Spring wheat 1.5 bu./ac. at $6.70/bu.
   - Durum wheat 1.5 bu./ac. at $7.04/bu.
   - CPS wheat 1.5 bu./ac. at $5.97/bu.
   - Barley 1.5 bu./ac. at $4.81/bu.
   - Oats 2.5 bu./ac. at $4.26/bu.
   - Mustard 10 lb./ac. at $1.77/lb. treated.
   - Flax 30 lb./ac. at $9.70/bu. ($.17/lb.)
   - Lentils 90 lb./ac. at $0.21/lb.
   - Canary seed 35 lb./ac. at $0.23/lb.
   - Seed prices are an average of seed grower price and commercial prices, since farmers commonly clean their own grain for seed (except for mustard).

2. **Fertilizer:**
   Nitrogen based on 46-0-0 at $412/tonne ($.41/lb.)
   - Nitrogen on fallow crops 20 lb. N/ac.
   - Nitrogen on stubble crops 45 lb. N/ac. except for Canary where 35 lb./ac. is recommended.
   - Nitrogen on fallow and stubble lentils 6 lb. N/ac. based on 50 lb. of 12-51-0.

   Phosphorus based on 12-51-0 $417/tonne ($.27/lb.)
   - The following lists the recommended rates of seed placed phosphate: cereals, 30 lb./ac.; mustard, 20 lb./ac.; flax, 15 lb./ac.; lentils, 20 lb./ac.; pea, 15 lb./ac. Source: SAF.

   Sulphur based on 20-0-0-24 at $290/tonne ($.20/lb.)
   - Sulphur on mustard at 10 lb. S/ac. (application cost is included with machinery costs).

3. **Pesticides**
   Herbicides:
   - Cereals: 25% of acres sprayed for wild oats (except oats) and 100% of acres for broadleaf weeds.
   - Mustard fallow and conventional stubble: wild oats and broadleaf pre-plant 100% of acres. Mustard direct seed 100% of acres for wild oats.
   - Lentils, flax: broadleaf and grassy weeds 100% of acres.
   - Canary seed: wild oats 25% of acres, broadleaf 100% of acres.
   - Direct seeded stubble: pre plant burn-off 100% of acres (glyphosate).
   - Cereals, flax, canary seed: pre/post harvest 20% of all acres with glyphosate.

   Insecticides and Others:
   - All crops: seed treatment or inoculation: 100% of acres.
   - Canary: insect control 20% of acres.
   - Mustard: insect control 10% of acres per year (10% of $5/ac. application cost included in custom work).
   - Spring wheat, durum, CPS wheat: midge control 20% of acres per year (20% of $5/ac application cost included in custom work).
   - Lentils: inoculation 100% of acres, desiccation 75% of acres, fungicide 20% of acres, insecticide 20% of acres for grasshoppers.
   - Tillage fallow: 100% of acres sprayed for winter annuals.
   - Chem-fallow: one application for winter annuals, two applications for broad spectrum, one application for broadleaf.

4. **Fuel costs** are based on estimated fuel consumption for the various farming operations with diesel fuel priced at 65 cents/litre.

5. **Machinery repair** rates are 4% of machinery investment per year for lentils and flax and 3% for all other crops.

6. **Saskatchewan Crop Insurance Corporation (SCIC)** premiums are based on 70% of the risk area(s) coverage plus 20%.

7. **Building repair** rates are 5% of building investment per acre.

8. **Operating interest** is calculated on all cash operating costs at 5.7% for six months on all crops, 18 months for fallow.

9. **Machinery depreciation** is calculated at 10% of machinery investment per year on a straight-line basis.

10. **Building depreciation** is based on a building investment of $18 per cultivated acre calculated at 5% per year on a straight-line basis.

11. **Average machinery investment** is $144 per cultivated acre, $49 per tillage fallow acre and $35 per chem fallow acre. An additional machinery investment of $35 per acre is assumed for lentils.

12. **Investment cost** on buildings and machinery investment is calculated at an interest rate of 5.7% on the investment per acre.

13. **Land investment cost** of $13.95/ac. is calculated at 4.5% return on investment of $310 per cultivated acre.

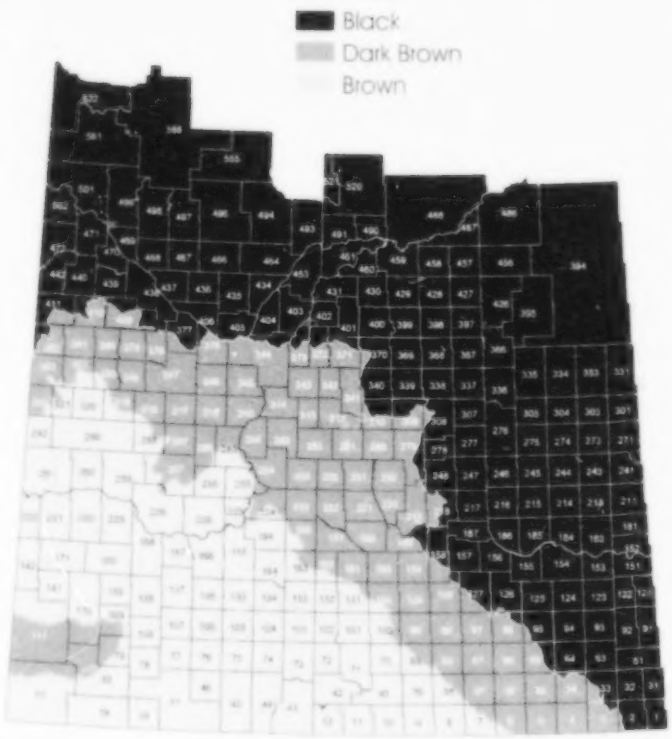
14. **Crop prices** for 2007 production are farm gate price estimates for 2007 crop production, provided by SAF in December 2006.

15. **Crop yields** are 120% of long-term averages for SCIC risk areas 3 and 10, soil class H based on data compiled by SCIC. Crop yields for the average soil class in the risk area have been increased by 20% to reflect the increased productivity for 2007 over the long-term averages and the higher than average input levels used in these budgets.

16. **Crops** that appear in both the Crop Planning Guides and the Specialty Crops Guide that share the same soil zone and are continuous cropped have their yields averaged between SAF's 10-year averages and SCIC yields plus 20%.

17. **Labour and management.** These budgets do not include an estimate for owner/operator labour and management. This value varies greatly, and farm managers need to determine their own actual labour and management cost.

Soil Zones of Southern Saskatchewan



For more information, contact:
The Agriculture Knowledge Centre (AKC)
Toll free: 1-866-457-2377
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the Provincial Crop Economics Specialist
Crop Development Branch, SAF
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This information is on SAF's website along with other SAF publications.
Website: www.agr.gov.sk.ca

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BROWN SOIL ZONE ASSUMPTIONS

1. **Seed including cleaning:**
   - Spring wheat 1.5 bu./ac. at $6.70/bu.
   - Durum wheat 1.5 bu./ac. at $7.04/bu.
   - CPS wheat 1.5 bu./ac. at $5.97/bu.
   - Barley 1.5 bu./ac. at $4.81/bu.
   - Oats 2.5 bu./ac. at $4.26/bu.
   - Mustard 10 lb./ac. at $1.77/lb. treated
   - Flax 30 lb./ac. at $9.70/bu. ($.17/lb.)
   - Lentils 90 lb./ac. at $0.21/lb.
   - Canary seed 35 lb./ac. at $0.23/lb.
   - Seed prices are an average of seed grower price and commercial prices, since farmers commonly clean their own grain for seed (except for mustard).

2. **Fertilizer:**
   Nitrogen based on 46-0-0 at $412/tonne ($.41/lb.)
   - Nitrogen on fallow crops 20 lb. N/ac.
   - Nitrogen on stubble crops 45 lb. N/ac. except for Canary where 35 lb./ac. is recommended.
   - Nitrogen on fallow and stubble lentils 6 lb. N/ac. based on 50 lb. of 12-51-0.

   Phosphorus based on 12-51-0 $417/tonne ($.27/lb.)
   - The following lists the recommended rates of seed placed phosphate: canola, 20 lb./ac.; mustard, 20 lb./ac.; flax, 15 lb./ac.; lentils, 20 lb./ac.; peas, 15 lb./ac. Source: SAF.

   Sulphur based on 20-0-0-24 at $280/tonne ($.20/lb.)
   - Sulphur on mustard at 10 lb./ac. Size / application cost is included with machinery costs.

3. **Pesticides**
   Herbicides
   - Cereals, 25% of acres sprayed for wild oats (except oats) and 100% of acres for broadleaf weeds.
   - Mustard fallow and conventional stubble, wild oats and broadleaf pre-plant 100% of acres. Mustard direct seed 100% of acres for wild oats.
   - Lentils, flax, broadleaf and grassy weeds 100% of acres.
   - Canary seed, wild oats 25% of acres, broadleaf 100% of acres.
   - Direct seeded stubble, pre plant burn off 100% of acres (glyphosate).
   - Cereals, flax, canary seed, pre-post harvest 20% of all acres with glyphosate.

   Insecticides and Others
   - All crops, seed treatment or inoculation 100% of acres.
   - Canary, insect control 20% of acres.
   - Mustard, insect control 10% of acres per year (15% of 65 ac. application cost, included in custom work).
   - Spring wheat, durum, CPS wheat, midge control 20% of acres per year (20% of $5/ac. application cost included in custom work).
   - Lentils, inoculation 100% of acres, desiccation 2% of acres, fungicide 2% of acres, insecticide 20% of acres for grasshoppers.
   - Tillage fallow, 100% of acres sprayed for winter annuals.
   - Chem fallow, one application for winter annuals, two applications for broad spectrum, one application for broadleaf.

4. **Fuel costs** are based on estimated fuel consumption for the various farming operations with diesel fuel priced at 65 cents/litre.

5. **Machinery repair** rates are 4% of machinery investment per year for lentils and flax and 2% for all other crops.

6. **Saskatchewan Crop Insurance Corporation (SCIC)** premiums are based on 70% of the risk area(s) coverage plus 20%.

7. **Building repair** rates are 5% of building investment per acre.

8. **Operating interest** is calculated on all cash operating costs at 5.7% for six months on all crops; 18 months for fallow.

9. **Machinery depreciation** is calculated at 10% of machinery investment per year on a straight-line basis.

10. **Building depreciation** is based on a building investment of $18 per cultivated acre, calculated at 5% per year on a straight line basis.

11. **Average machinery investment** is $144 per cultivated acre, $49 per tillage fallow acre and $35 per chem fallow acre. An additional machinery investment of $35 per acre is assumed for lentils.

12. **Investment cost** on buildings and machinery investment is calculated at an interest rate of 5.7% on the investment per acre.

13. **Land investment cost** of $1,195/ac. is calculated at 4.5% return on investment of $310 per cultivated acre.

14. **Crop prices** for 2007 production are farm gate price estimates for 2007 crop production, provided by SAF in December 2006.

15. **Crop yields** are 120% of long-term averages for SCIC risk areas 3 and 10, soil zones H (based on data compiled by SCIC). Crop yields for flax average soil zones in the risk area have been increased by 20% to reflect the increased productivity for 2007 over the long-term averages and the higher than average input levels used in these budgets.

16. **Crops** that appear in both the Crop Planning Guides and the Specialty Crops Guide that share the same soil zone and are continuously cropped have their yields averaged between SAF's 10 year averages and SCIC yields plus 20%.

17. **Labour and management** - These budgets do not include an estimate for owner-operator labour and management. This value varies greatly, and farm managers need to determine their own actual labour and management cost.

Soil Zones of Southern Saskatchewan

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